



## New Jersey Department of Agriculture Organic Certification Program

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### Compost Production and Use Guidance for Organic Producers

Compost is understood by most as being the material that is left when plant and animal matter is piled together or put into a container, and is subsequently broken down by microbes (bacteria and fungi). Compost is also used to describe materials that have been broken down by detritivores (scavengers that feed on dead plant and animal materials or waste). Plant and animal materials that have been broken down exclusively by earthworms are called “vermicompost”. Compost contains plant and soil nutrients, retains water, and is high in organic matter content. These properties will vary depending on the type of materials that were used to make the compost (feedstocks), and the management system used to produce it. Use of properly made compost in an organic system improves many aspects of soil quality and health, and provides growing plants with nutrients. Many organic growers rely on compost as a main component of their organic system to raise organic matter content in soils, for fertility, and sometimes as a mulch to discourage weeds. Compost systems must be planned and managed correctly to prevent contamination of the environment from nutrients or residues that may have been on feed stocks, and to prevent the introduction of weed seeds and pathogens, both animal and plant, into the organic system.

The USDA’s regulations for organic production and handling (*7 CFR Part 205, the National Organic Program; Final Rule*) include a number of specific requirements for making “compost”. These requirements were drawn from EPA and NRCS composting regulations and standards that address composting of manures and sewage. The USDA used these existing regulations to develop an organic composting standard to prevent food crop contamination by pathogens. These composting rules are also meant to prevent environmental contamination from poorly managed composting systems, and apply to both farm-produced and purchased composts.

Because these requirements were developed from EPA and NRCS composting standards, parts of the requirements assume that the feedstocks include animal manures. If your “compost” does not include animal manures (or other compost derived from animal manures) it is considered “un-composted plant material” and there are fewer requirements. Only composts which include animal manures **and** which are applied to crops grown for human consumption are subject to the complete compost standard as written in §205.203(c)(1) and (2) of the rule. Compost that does not include any animal manure must still meet all of the other requirements found in §205.203(c).

#### **§205.203 Soil fertility and crop nutrient management practice standard.**

(c) The producer must manage plant and animal materials to maintain or improve soil organic matter content in a manner that does not contribute to contamination of crops, soil, or water by plant nutrients, pathogenic organisms, heavy metals, or residues of prohibited substances. Animal and plant materials include:

- (1) Raw animal manure, which must be composted unless it is:
  - (i) Applied to land used for a crop not intended for human consumption;
  - (ii) Incorporated into the soil not less than 120 days prior to the harvest of a product whose edible portion has direct contact with the soil surface or soil particles; or
  - (iii) Incorporated into the soil not less than 90 days prior to the harvest of a product whose edible portion does not have direct contact with the soil surface or soil particles;
- (2) Composted plant and animal materials produced through a process that:
  - (i) Established an initial C:N ratio of between 25:1 and 40:1; and
  - (ii) Maintained a temperature of between 131° F and 171° F for 3 days using an in-vessel or static aerated pile system; or
  - (iii) Maintained a temperature of between 131° F and 171° F for 15 days using a windrow composting system, during which period, the materials must be turned a minimum of five times.
- (3) Uncomposted plant materials.

The rules for compost made with animal manures are intentionally rigorous and address time, temperature, and pile composition (feedstocks). We know these regulations are burdensome for growers without appropriate power equipment and/or limited labor; however, compliance is mandatory for compost that had any manure as a feed stock (note – most if not all “mushroom soils” contain manure as a feedstock in the beginning of the compost process). When making compost on farm, if it includes manure as a feedstock you must have documentation (keep records) showing compliance with the temperature and turning requirements, or follow the “days to harvest restrictions” if the resulting compost is to be used in areas growing crops for human consumption.

You must keep careful, complete records of your composting system(s), your field applications of composts and manures, and of your crop harvest dates to demonstrate compliance with the regulations. If purchased compost contained manure as a feed stock, documentation and/or verification that the compost meets the requirements of the rule will have to be obtained by the grower using the compost. The NJDA *Compost Production Form* (received with every application and update package) is used to describe compost made on farm or purchased from off farm, and includes a table for recording temperature and turning events on the back. The NJDA Yearly Materials Log Form, section A, is used to log applications of raw manure, and section B for applications of compost. Your own record keeping systems (note books, calendars, etc.) can be used to record crop harvest dates. If you have any questions or are in doubt if a particular compost or compost product is compliant with the rule, you should discuss your concerns with the Supervisor prior to applying the materials to organic crops; especially if the crop is for human consumption.

The rules do not specifically address vermicompost, there is no mention of “compost tea” (solutions made with compost, water, and sometimes added nutrients), and no provisions for heat-treated or processed manures. The National Organic Standards Board (NOSB) Compost Task Force completed a recommendation on compost, vermicompost, compost teas, and processed manures (April 18, 2002). A separate NOSB Compost Tea Task Force published a formal report on April 6, 2004. These recommendations and reports are excellent guidance tools and are available through the NOSB website or by requesting copies from the Supervisor of the Organic Certification Program.

Q: *What about aged / rotted manure?*

A: Aged manure is not considered compost. It must be composted as described in the rule or be treated as raw manure, regardless of age. The days to harvest restrictions must be followed. Be aware that “rotted manure” usually has a C:N ratio of about 20:1 or lower, and so it must be mixed with a higher-carbon substance when composting (i.e. leaves are 40 up to 80:1).

Q: *What will be required prove that my compost meets the regulations?*

A: Records of your management will be required to determine if you have met the composting regulations in the final rule. Records include the following:

1. Complete ingredient / feedstock listing (all materials used in the system and their estimated % by weight)
2. Temperature logs
3. Turning logs

You can create your own system for recording these activities, or you can use the NJDA *Compost Production Form* and *Yearly Materials Log Form* to record your management.

Q: *What will be required if I choose to spread my compost as “raw manure”?*

A: Any compost containing manure that does not have documentation of management showing compliance with the rule must be treated as raw manure. When spreading raw manure on organic fields, records must be kept to include the location(s) where spread, date(s) spread and incorporated, and dates crops were harvested. Remember, if going on a field that will be growing crops for human consumption, the material must be **incorporated into the soil**. Record the method of incorporation (i.e. disked in, plowed in, etc.).